City of El Paso Employees Retirement Trust

Actuarial Valuation Report
As of September 1, 2020

February 2021

February 26, 2021

Mr. Robert B. Ash
Pension Administrator
City of El Paso Employees' Retirement Trust
1039 Chelsea St.
El Paso, TX 79903

Dear Robert,

This report summarizes the results of the September 1, 2020 actuarial valuation of the City of El Paso Employees Retirement Trust (Plan).

The primary purposes of the valuation are to (i) determine the adequacy of the current contribution rate of the City, (ii) describe the current financial condition of the Plan, and (iii) analyze changes in the Plan's condition since the last valuation.

Valuations are prepared biennially, as of September 1 of even years. September 1 is the first day of the Plan's plan year. Interim valuations are prepared as of September 1 of odd years based on updated assets and a roll-forward of liabilities from the previous valuation.

Use of this report for any other purpose or by anyone other than the City or the Board may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting it to perform an advance review of any statement, document, or filing based on information contained in this report. Buck will accept no liability for any such statement, document or filing made without prior review by Buck.

The actuarial valuation reflects the benefit and contribution provisions set forth in the Plan's statutes. A summary of the benefit provisions used in the valuation is presented in Schedule B. There were no changes in benefit provisions since the previous valuation.

The actuarial assumptions and methods used in the valuation are presented in Schedule C. In my opinion, the actuarial assumptions are reasonable, taking into account the experience of the Plan and reasonable long-term expectations, and represent my best estimate of the anticipated long-term experience under the Plan. The assumptions and methods used in the valuation were adopted by the Board based on (i) the experience study for the period September 1, 2014 to August 31, 2018, and (ii) the funding policy that was formalized in 2019.

Member data for active, retired, and inactive members was supplied as of July 1, 2020 by the City. The City is solely responsible for the accuracy and comprehensiveness of the data. We did not verify the data submitted but did perform tests for consistency and reasonableness. Asset information was supplied by the City on October 26, 2020.

Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB 67) was effective for the Plan beginning with fiscal year ending August 31, 2014. We have prepared the member data tables shown in Schedule A of this report for the Statistical Section of the CAFR, as well as the summary of actuarial assumptions shown in Schedule C of this report. Please see our separate GASB 67 reports for other information needed for the CAFR.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of such future differences is beyond the scope of this valuation.

Actuarial Standard of Practice No. 51 (“ASOP 51”) applies to funding calculations such as those presented in this report and requires certain disclosures of potential risks. Schedule D presents an assessment of the key risks applicable to this plan, as well as historical information and plan maturity measures.

Actuarial Standard of Practice No. 56 (“ASOP 56”) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding rules specified in this report. The output from the third-party vendor software is used as input to an internally developed model that applies applicable funding rules to the liabilities derived and other inputs, such as plan assets and contributions, to generate the exhibits found in this report. Buck has an extensive review process whereby the results of the liability calculations are checked using detailed sample output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal model are similarly reviewed in detail and at a high level for accuracy, reasonability and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. The review is performed by experts within the company who are familiar with applicable funding rules as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked and reviewed by multiple experts within the company who are familiar with the details of the required changes.

Where presented, references to “funded ratio” and “unfunded accrued liability” typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the Plan if the Plan were to settle (i.e., purchase annuities) for all or a portion of its liabilities.

This report was prepared under my supervision and in accordance with all applicable Actuarial Standards of Practice. The assumptions and methods used for funding purposes meet the requirements of all applicable Actuarial Standards of Practice. I am a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

I am available to discuss this report with you at your convenience. I can be reached at 602-803-6174.

Sincerely,

Buck Global, LLC (Buck)

David J. Kershner, FSA, EA, MAAA, FCA
Principal

Contents

Section 1 – Summary of Results

	September 1, 2020	September 1, 2018
Membership[1]		
Active	4,304	4,345
Terminated with deferred benefits[2]	162	181
Retired paid from Plan[3]	3,476	3,174
Compensation		
Total	$ 167,790,367	$ 167,225,529
Average	$ 38,985	$ 38,487
Assets		
Market value	$ 877,989,396	$ 820,416,288
Actuarial value	$ 867,570,209	$ 822,926,030
Valuation Results		
Actuarial Accrued Liability (AAL)	$ 1,085,022,171	$ 1,024,379,167
Actuarial Value of Assets (AVA)	$ 867,570,209	$ 822,926,030
Funded ratio (AVA/AAL)	80.0%	80.3%
Unfunded Actuarial Accrued Liability (UAAL)	$ 217,451,962	$ 201,453,137
UAAL funding period	16 years	14 years
Actuarially Determined Contribution (ADC)[4]		
Normal cost rate (net of member contributions)	2.99%	2.99%
UAAL amortization rate	8.53%	6.87%
Total rate	11.52%	9.86%
Excess of City's Fixed Contribution Rate Over ADC	2.53%	4.19%

[1] Census data as of July 1 preceding the valuation date.
[2] Excludes terminated members entitled to refunds of contributions paid after July 1.
[3] Excludes retirees for whom annuities were purchased from Prudential, but whose cost of living increases are paid by the Plan.
[4] Reflects 30-year single period amortization of UAAL for 9/1/2018; 25-year layered amortization of UAAL for 9/1/2020.

Section 2 – Comments on the Valuation

Overview

The overall funded status of the Plan has declined slightly since the September 1, 2018 valuation. This is mainly due to a combination of (i) unfavorable asset experience, and (ii) the new assumptions and methods that were adopted by the Board based on the experience study for the period September 1, 2014 to August 31, 2018 and the funding policy that was formalized in 2019.

Section 3 shows in more detail the changes to the UAAL.

Funding Status

There are two significant measures of the funding status of the Plan.

- The first is the Actuarially Determined Contribution (ADC). This is the City's contribution rate that is required to pay the Normal Cost and to amortize the UAAL over 25-year periods. This rate is currently 11.52% of pay (the City's fixed contribution rate is 14.05% of pay).
- The second is the UAAL funding period. This is the length of time in years that will be required to amortize the current UAAL based on the fixed member and City contribution rates. This period is currently 16 years, compared to 14 years in 2018.

Benefit Provisions

Schedule B summarizes the benefit provisions of the Plan. The provisions were changed effective September 1, 2011 so that members of the Plan prior to September 1, 2011 are eligible for the First Tier Plan, and members of the Plan on or after September 1, 2011 are eligible for the Second Tier Plan. There are no significant benefits which were not taken into account in this valuation. There were no changes to the benefit provisions since the previous valuation.

Actuarial Assumptions and Methods

Schedule C describes the assumptions and methods used in the valuation. These assumptions and methods were adopted by the Board based on the experience study for the period September 1, 2014 to August 31, 2018 and the funding policy that was formalized in 2019.

Financial Data

The financial data used in this report was provided by the City on October 26, 2020.

Section 5 shows a reconciliation of the Plan's assets between 2018 and 2020, and shows the development of the Actuarial Value of Assets (AVA). To minimize volatility in contribution rates, we use an adjusted market value (AVA) which phases in market gains and losses over five years. The market returns for the two years since the last valuation were 0.8% and 13.2%, while the actuarial returns were 4.7% and 7.3%.

Membership Statistics

Data on active and retired members was supplied by the City as of July 1, 2020. The active membership decreased from 4,345 to 4,304 between 2018 and 2020, while payroll increased from $167.2 million to $167.8 million over the same period. The number of retirees and beneficiaries receiving benefits increased from 3,174 to 3,476 during this 2-year period. Schedule A provides a summary of the membership data used in the current and prior valuations.

Section 3 – Actuarial Funding Requirements

Actuarial Liabilities, Costs and Funding Period

		September 1, 2020	September 1, 2018
1.	Covered Payroll (excluding 4% overtime load)	$ 167,790,367	$ 167,225,529
2.	Actuarial present value of future pay	$ 1,266,925,833	$ 1,318,186,404
3.	Current contribution rates		
	a. City	14.05%	14.05%
	b. Member	8.95%	8.95%
	c. Total	23.00%	23.00%
4.	Normal cost rate		
	a. Total (before adjustment for overtime)	12.42%	12.42%
	b. Total (after adjustment for overtime)	11.94%	11.94%
	c. Member contribution rate	8.95%	8.95%
	d. Employer normal cost rate (4b – 4c)	2.99%	2.99%
5.	Actuarial present value of future benefits	$ 1,242,374,359	$ 1,188,097,918
6.	Actuarial present value of future normal costs (4a x 2)	$ 157,352,188	$ 163,718,751
7.	Actuarial accrued liability (5 – 6)	$ 1,085,022,171	$ 1,024,379,167
8.	Actuarial value of assets	$ 867,570,209	$ 822,926,030
9.	Unfunded actuarial accrued liability (UAAL) (7 – 8)	$ 217,451,962	$ 201,453,137
10.	City's Actuarially Determined Contribution (ADC)[1]		
	a. Employer normal cost rate (4d)	2.99%	2.99%
	b. UAAL amortization rate	8.53%	6.87%
	c. Total	11.52%	9.86%
11.	Margin over/(under) ADC (3a – 10c)	2.53%	4.19%
12.	UAAL funding period	16 years	14 years

[1] Reflects 30-year single period amortization of UAAL for 9/1/2018; 25-year layered amortization of UAAL for 9/1/2020.

Section 3 – Actuarial Funding Requirements (continued)

Analysis of Change in UAAL

1.	UAAL as of September 1, 2018	$	201,453,137
2.	Changes due to:		
	a. Expected increase/(decrease)		(9,008,533)
	b. Actual contributions greater than expected		(2,637,820)
	c. Other changes including liability experience		1,553,469
	d. Asset experience		26,071,366
	e. Assumption Changes		20,343
	Total Changes	$	15,998,825
3.	UAAL as of September 1, 2020	$	217,451,962

Schedule of UAAL Layered Amortizations

	Amortization Period		Balances		
Layer	Date Created	Years Remaining	Initial	Outstanding	Beginning-of-Year Payment
Initial[1]	9/1/2019	24	$ 217,986,352	$ 220,114,773	$ 15,071,522
Change in Assumptions	9/1/2020	25	20,343	20,343	1,362
FY20 Experience[2]	9/1/2020	25	(2,683,153)	(2,683,153)	(179,671)
Total				$ 217,451,963	$ 14,893,213

[1] Based on the September 1, 2019 roll-forward valuation (includes the FY19 asset loss).
[2] Combination of liability experience, FY20 asset experience, and contributions greater than expected.

Section 4 – Historical Funding Information

Historical Funding Detail (in $millions)

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL) - Entry Age	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll[1]	UAAL as a Percentage of Covered Payroll
September 1, 2008	552.8	631.6	78.8	87.5%	136.5	57.7%
September 1, 2010	569.7	710.0	140.3	80.2%	143.1	98.0%
September 1, 2012	581.7	788.2	206.5	73.8%	147.7	139.8%
September 1, 2014	663.1	859.7	196.7	77.1%	153.6	128.0%
September 1, 2016	749.0	945.8	196.7	79.2%	156.3	125.9%
September 1, 2018	822.9	1,024.4	201.5	80.3%	167.2	120.5%
September 1, 2020	867.6	1,085.0	217.5	80.0%	167.8	129.6%

Schedule of Employer Contributions

Valuation Date	Fiscal Year Ending	City's Actuarially Determined Contribution[2]	Percentage Contributed
September 1, 2008	August 31, 2009	13,459,678	128.1%
September 1, 2010	August 31, 2011	17,544,977	100.5%
September 1, 2012	August 31, 2013	20,668,877	94.5%
September 1, 2014	August 31, 2015	18,848,390	121.6%
September 1, 2016	August 31, 2017	16,274,581	155.6%
September 1, 2018	August 31, 2019	16,488,437	156.2%
September 1, 2020	August 31, 2021	19,329,450	TBD

[1] Excluding 4% overtime load.
[2] Based on projected payroll.

Section 5 – Summary of Asset Information

Reconciliation of Plan Assets

		Period Ending	
		August 31, 2020	August 31, 2019
1.	Market value of assets at beginning of period	$ 802,755,755	$ 820,416,288
2.	Contributions		
	a. City	$ 26,687,855	$ 25,761,130
	b. Member	14,722,926	16,410,115
	c. Total	$ 41,410,781	$ 42,171,245
3.	Benefit payments and refunds	(70,376,992)	(66,648,577)
4.	Investment earnings (net of investment expenses)	106,338,762	9,080,390
5.	Administrative expenses	(2,138,910)	(2,263,591)
6.	Market value of assets at end of period	$ 877,989,396	$ 802,755,755

Section 5 – Summary of Asset Information (continued)

Determination of Investment Earnings to be Deferred

		Period Ending	
		August 31, 2020	August 31, 2019
1.	Market value at beginning of period	$ 802,755,755	$ 820,416,288
2.	Cash flows		
	a. City contributions	$ 26,687,855	$ 25,761,130
	b. Member contributions	14,722,926	16,410,115
	c. Benefit payments	(66,639,726)	(62,939,091)
	d. Refunds	(3,737,266)	(3,709,486)
	e. Total	$ (28,966,211)	$ (24,477,332)
3.	Weighted cash flows (2e x 50%)	$ (14,483,106)	$ (12,238,666)
4.	Assets available (1 + 3)	$ 788,272,649	$ 808,177,622
5.	Assumed investment return rate	7.50%	7.50%
6.	Expected net return (4 x 5)	$ 59,120,449	$ 60,613,322
7.	Actual net return		
	a. Total investment return	$ 106,338,762	$ 9,080,390
	b. Administrative expenses	(2,138,910)	(2,263,591)
	c. Net return	$ 104,199,852	$ 6,816,799
8.	Gain/(loss) subject to deferral (7c - 6)	$ 45,079,403	$ (53,796,523)

Section 5 – Summary of Asset Information (continued)

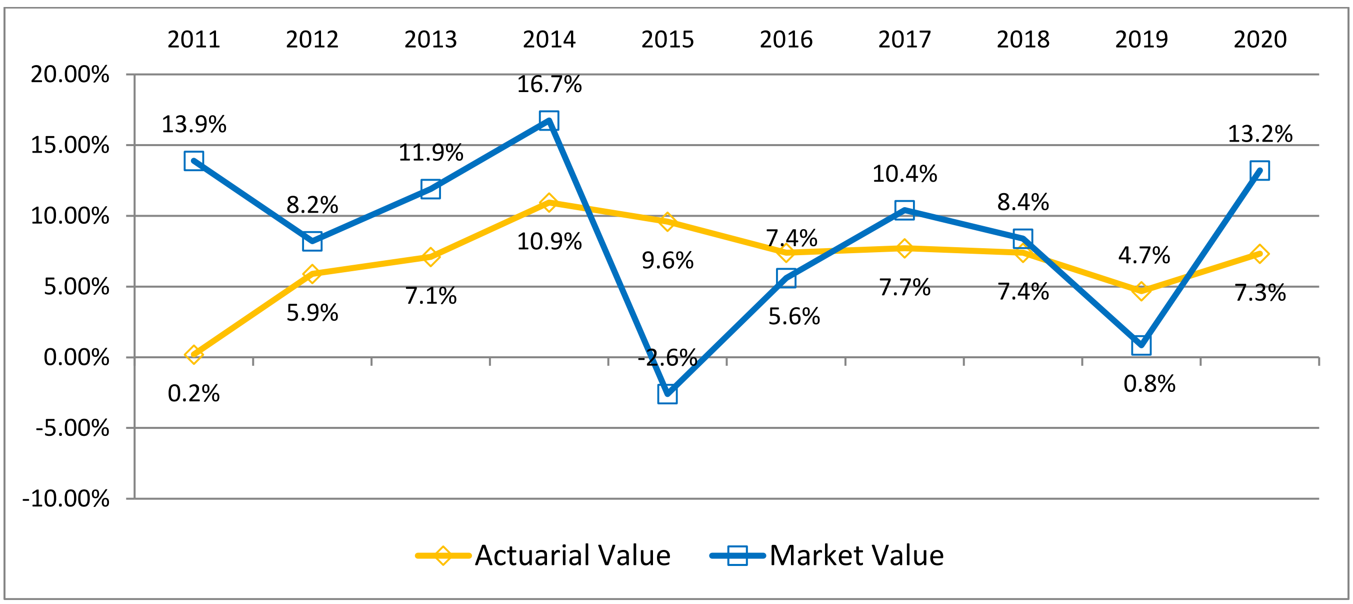
Calculation of Actuarial Value of Assets

1. Market value of assets as of August 31, 2020 — $ 877,989,396
2. Deferral amounts

Year	Total Gain/(Loss)	Percent Deferred	Deferral Amount
2019-2020	$ 45,079,403	80%	$ 36,063,523
2018-2019	(53,796,523)	60%	(32,277,914)
2017-2018	6,291,481	40%	2,516,592
2016-2017	20,584,931	20%	4,116,986
Total			$ 10,419,187

3. Actuarial value of assets as of September 1, 2020 (1 – 2) — $ 867,570,209

Historical Asset Rates of Return



Section 6 – 10-Year Projections[1]

FYE	Expected City Contributions	Expected Member Contributions	Expected Benefit Payments	Expected Refunds
August 31, 2021	$ 27,355,051	$ 15,090,999	$ 78,432,010	$ 3,830,698
August 31, 2022	28,038,928	15,468,274	72,077,442	3,926,465
August 31, 2023	28,739,901	15,854,981	74,123,907	4,024,627
August 31, 2024	29,458,398	16,251,356	76,166,779	4,125,242
August 31, 2025	30,194,858	16,657,639	78,223,053	4,228,373
August 31, 2026	30,949,730	17,074,080	80,159,429	4,334,083
August 31, 2027	31,723,473	17,500,932	82,123,496	4,442,435
August 31, 2028	32,516,560	17,938,456	84,212,007	4,553,496
August 31, 2029	33,329,474	18,386,917	85,974,348	4,667,333
August 31, 2030	34,162,711	18,846,590	87,637,471	4,784,016

[1] Based on projected payroll.

Schedule A - Membership Data

	September 1, 2020[1]	September 1, 2018[1]	September 1, 2016[1]	September 1, 2014[1]	September 1, 2012[1]
1. Active members					
a. Number vested	1,585	1,902	2,008	1,996	1,720
b. Number non-vested	2,719	2,443	2,209	2,153	2,414
c. Total	4,304	4,345	4,217	4,149	4,134
d. Covered payroll	$ 167,790,367	$ 167,225,529	$ 156,336,028	$ 153,613,608	$ 147,740,362
e. Average annual pay	$ 38,985	$ 38,487	$ 37,073	$ 37,024	$ 35,738
f. Average age	45.4	45.8	46.5	46.8	46.7
g. Average service (years)	9.6	10.1	10.6	10.7	10.4
2. Retired members					
a. Number currently being paid from Plan[2]	3,476	3,174	2,863	2,627	2,399
b. Total current annual benefit	$ 68,772,742	$ 59,700,507	$ 52,488,661	$ 46,393,663	$ 40,881,148
c. Average current annual benefit	$ 19,785	$ 18,809	$ 18,333	$ 17,660	$ 17,041
d. Average age	70.2	69.8	69.4	69.1	68.5
3. Deferred vested members					
a. Number entitled to deferred benefits[3]	162	181	141	150	129
b. Total deferred annual benefit	$ 2,238,717	$ 2,624,290	$ 1,949,199	$ 1,981,100	$ 1,797,259
c. Average deferred annual benefit	$ 13,819	$ 14,499	$ 13,824	$ 13,207	$ 13,932
d. Average age	49.7	48.4	49.7	49.1	49.1

[1] Census data provided as of July 1 preceding the valuation date is assumed to be the same as of September 1. Compensation amounts have been adjusted for two months at assumed salary increases.

[2] Excludes retirees for whom annuities were purchased from Prudential, but whose cost-of-living increases are paid by the Plan (161 as of July 1, 2018; 120 as of July 1, 2020).

[3] Excludes terminated members entitled to refunds of contributions paid after July 1 (504 members with $4,579,540 in contributions as of July 1, 2018; 999 members with $7,407,577 in contributions as of July 1, 2020).

Schedule A (continued)

Pension Benefit Recipients (Retirees and Beneficiaries) Added to and Removed from Rolls

	Added to Rolls		Removed from Rolls		Rolls – End of Year		Percent	Average
Valuation Date	Number	Annual Pension Benefits	Number	Annual Pension Benefits	Number	Annual Pension Benefits	Increase in Pension Benefits	Annual Pension Benefit
September 1, 2020	514	$ 11,931,948	212	$ 2,859,713	3,476	$ 68,772,742	15.2%	$19,785
September 1, 2018	492	$ 10,185,670	181	$ 2,973,824	3,174	$ 59,700,507	13.7%	$18,809

Schedule B - Summary of Benefit Provisions

First Tier Plan

Final Wages

The greatest of (i) average of Member's total earnings in the 36 months before retirement, (ii) average of Member's base pay for the year before retirement, or (iii) Member's base pay in the month preceding retirement.

Member

All classified civil service employees of the City of El Paso, except for members of the Policemen's or Firemen's Pension Fund. Permanent part-time employees and certain full-time employees not in the classified civil service are not required to participate but may elect to do so. Special rules apply to certain "grant-funded" employees. The First Tier Plan applies to employees who become plan participants prior to September 1, 2011.

Credited Service

Years and months of service while a Member. At retirement, a Member may convert unused sick leave to service under the plan. An unlimited amount of sick leave may be converted to benefit service. Alternatively, up to six months of sick leave may be applied to meet a benefit eligibility requirement, but if so used, such service cannot also be used in the calculation of the benefit amount.

Contribution Rates

Effective September 1, 2014, active members contribute 8.95% of his/her wages per year. The City contributes 14.05% of the member's wages per year.

Service Retirement Benefits

Normal Retirement Benefit

Eligibility

Age 55 with 10 years of Credited Service, age 60 with 7 years of Credited Service, or 30 years of Credited Service, if earlier.

Benefit

2.50% of Final Wages times years of Credited Service, subject to a minimum benefit of $75.

Early Retirement Benefit

Eligibility

Age 40 with 10 years of Credited Service, or age 45 with at least 7 years of Credited Service.

Benefit

2.50% of Final Wages times years of Credited Service, multiplied by the appropriate actuarial reduction factor.

Deferred Retirement Benefit

Eligibility

Age 40 with 10 years of Credited Service, or age 45 with at least 7 years of Credited Service.

Benefit

2.50% of Final Wages times years of Credited Service, payable at early retirement age reduced in accordance with the Early Retirement Benefit or unreduced at normal retirement age.

Schedule B - Summary of Benefit Provisions (continued)

Withdrawal (Refund) of Contributions

Eligibility

Immediate.

Benefit

Total employee contributions without interest. If the member has more than five years of service, contributions are paid with interest, credited annually at 5.5%. No other benefits are payable under the Plan once the contributions are withdrawn.

Survivor Benefits

Qualified Surviving Spouse or Child Benefit

Eligibility

Death of a Member due to a job-related accident or age 40 with ten years of service or age 45 with seven years of service.

Benefit

Amount payable if Member had retired immediately prior to death with a Joint and 100% option, subject to a $75 per month minimum benefit. If death is due to a job-related accident, there is a minimum $550 per month benefit and the benefit is computed as if the Member were age 70 with 30 years of service. Benefits payable to the surviving spouse continue for life or until remarriage. If Member was not eligible for Early Retirement or death was not due to a job-related accident, a refund of contributions is available to the beneficiary, as described above.

Disability Retirement Benefit

Eligibility

Disability as a result of a job-related cause or any injury not due to the Member's own fault if Member has seven years of service.

Benefit

2.50% of Final Wages times Credited Service, with a minimum benefit of $75 per month (or $250 per month if disability is job-related).

Normal Form of Retirement Benefit

Joint and 2/3 survivor annuity. Optional forms of benefit are life only, joint and 100% survivor, joint and 50% survivor, and modified cash refund.

Schedule B - Summary of Benefit Provisions (continued)

Second Tier Plan

Final Wages

The average of Member's total earnings in the 36 months before retirement.

Member

All classified civil service employees of the City of El Paso, except for members of the Policemen's or Firemen's Pension Fund. Permanent part-time employees and certain full-time employees not in the classified civil service are not required to participate but may elect to do so. Special rules apply to certain "grant-funded" employees. The Second Tier Plan applies to employees who become plan participants after August 31, 2011.

Credited Service

Years and months of service while a Member. At retirement, a Member may convert unused sick leave to service under the plan. An unlimited amount of sick leave may be converted to benefit service. Alternatively, up to six months of sick leave may be applied to meet a benefit eligibility requirement, but if so used, such service cannot also be used in the calculation of the benefit amount.

Contribution Rates

Effective September 1, 2014, active members contribute 8.95% of his/her wages per year. The City contributes 14.05% of the member's wages per year.

Service Retirement Benefits

Normal Retirement Benefit

Eligibility

Age 60 with 7 years of Credited Service, or 35 years of Credited Service, if earlier.

Benefit

2.25% of Final Wages times years of Credited Service, subject to a minimum benefit of $75, limited to 90% of the 3-year final average pay.

Early Retirement Benefit

Eligibility

Age 45 with 7 years of Credited Service.

Benefit

2.25% of Final Wages times years of Credited Service, multiplied by the appropriate actuarial reduction factor.

Deferred Retirement Benefit

Eligibility

Age 45 with 7 years of Credited Service.

Benefit

2.25% of Final Wages times years of Credited Service, payable at early retirement age reduced in accordance with the Early Retirement Benefit or unreduced at normal retirement age.

Schedule B - Summary of Benefit Provisions (continued)

Withdrawal (Refund) of Contributions

Eligibility

Immediate.

Benefit

Total employee contributions without interest. If the member has more than seven years of service, contributions are paid with interest, credited annually at 3.0%. No other benefits are payable under the Plan once the contributions are withdrawn.

Survivor Benefits

Qualified Surviving Spouse or Child Benefit

Eligibility

Death of a Member due to a job-related accident or age 45 with seven years of service.

Benefit

Amount payable if Member had retired immediately prior to death with a Joint and 100% option, subject to a $75 per month minimum benefit. If death is due to a job-related accident, there is a minimum $550 per month benefit and the benefit is computed as if the Member were age 70 with 30 years of service. Benefits payable to the surviving spouse continue for life or until remarriage. If Member was not eligible for Early Retirement or death was not due to a job-related accident, a refund of contributions is available to the beneficiary, as described above.

Disability Retirement Benefit

Eligibility

Disability as a result of a job-related cause or any injury not due to the Member’s own fault if Member has seven years of service.

Benefit

2.25% of Final Wages times Credited Service, with a minimum benefit of $75 per month (or $250 per month if disability is job-related).

Normal Form of Retirement Benefit

Joint and 2/3 survivor annuity. Optional forms of benefit are life only, joint and 100% survivor, joint and 50% survivor, and modified cash refund.

Changes in plan provisions since the previous valuation

None.

Schedule C - Statement of Actuarial Methods and Assumptions

The economic and demographic assumptions used in the valuation were adopted by the Board in consultation with Buck. The Board's established practice is to review the experience of the Plan periodically to determine if any changes to the valuation assumptions are warranted. The assumptions and methods used in the valuation are based on the experience study for the period September 1, 2014 through August 31, 2018, and the funding policy that was formalized in 2019.

Investment Return

Current Valuation:

7.25% per year, net of expenses.

Prior Valuation:

7.50% per year, net of expenses.

Separations Before Normal Retirement

Representative values of the assumed annual rates of withdrawal are as follows:

Current Valuation:

	Withdrawal Years of Credited Service					
Age	1	2	3	4	5	6+
25	15.0%	15.0%	12.0%	12.0%	10.0%	9.0%
30	15.0	15.0	12.0	12.0	10.0	9.0
35	15.0	15.0	9.0	12.0	10.0	7.0
40	10.0	10.0	9.0	8.0	7.0	7.0
45	10.0	10.0	9.0	8.0	7.0	7.0
50	7.5	7.5	6.0	4.0	7.0	6.0
55	7.5	7.5	6.0	4.0	4.0	6.0
60	7.5	7.5	6.0	4.0	4.0	6.0

Prior Valuation:

	Withdrawal Years of Credited Service					
Age	1	2	3	4	5	6+
25	10.0%	10.0%	9.0%	8.0%	7.0%	9.0%
30	10.0	10.0	9.0	8.0	7.0	10.0
35	10.0	10.0	9.0	8.0	7.0	5.0
40	10.0	10.0	9.0	8.0	7.0	4.0
45	10.0	10.0	9.0	8.0	7.0	2.5
50	10.0	10.0	9.0	8.0	7.0	1.5
55	10.0	10.0	9.0	8.0	7.0	1.5
60	10.0	10.0	9.0	8.0	7.0	1.5

Schedule C - Statement of Actuarial Methods and Assumptions (continued)

Mortality

Current Valuation:

Mortality rates for active and deferred participants are based on the RP-2014 employee tables with Blue Collar adjustment projected with Scale MP-2019 on a fully generational basis. Mortality rates for healthy retirees and survivors are based on the RP-2014 healthy annuitant tables with Blue Collar adjustment (92% of male rates and 100% of female rates) projected with Scale MP-2019 on a fully generational basis. Mortality rates for disabled participants are based on the RP-2014 disabled annuitant table projected with Scale MP-2019 on a fully generational basis.

Prior Valuation:

Mortality rates for non-disabled participants were based on the RP-2014 employee/healthy annuitant tables with Blue Collar adjustment projected to 2030 using Scale BB. Mortality rates for disabled participants were based on the RP-2014 disabled annuitant table.

Disability

None assumed.

Death

5% of deaths among active participants are assumed to be job-related deaths. The remaining 95% of deaths are assumed not to be job-related.

Salary Increases

The assumed annual rates of future salary increase attributable to longevity and promotion are as follows:

Current Valuation:

Years of Service	Annual Rate of Salary Increase
Less than 3	4.50%
3	4.00
4	4.00
5	4.00
6	4.00
7	3.50
8	3.50
9	3.50
10	3.50
11	3.50
12	3.00
13	3.00
14	3.00
15	3.00
16 or more	2.75

Schedule C - Statement of Actuarial Methods and Assumptions (continued)

Prior Valuation:

Years of Service	Annual Rate of Salary Increase
Less than 3	4.50%
3	4.00
4	4.00
5	4.00
6	4.00
7	3.50
8	3.50
9	3.50
10	3.50
11	3.50
12	3.00
13	3.00
14	3.00
15	3.00
16 or more	3.00

Total payroll is assumed to increase 2.50% per year (3.00% was used in the prior valuation). This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

Overtime is assumed to be 4% of base and longevity pay.

Retirement Rates

The percentage of those eligible for normal retirement assumed to retire at various ages is as follows:

Current Valuation:

Retirement Rates					
	Tier 1			Tier 2	
Age	Male	Female	Age	Male	Female
45	6.0%	9.0%	45	2.5%	2.5%
50	6.0	9.0	50	1.5	1.5
55	12.0	10.0	55	8.0	7.0
62	17.5	15.0	62	10.0	7.0
65	25.0	20.0	65	10.0	12.0
70	40.0	25.0	70	40.0	20.0
75	100.0	100.0	75	100.0	100.0

Schedule C - Statement of Actuarial Methods and Assumptions (continued)

Prior Valuation:

Retirement Rates					
	Tier 1			Tier 2	
Age	Male	Female	Age	Male	Female
45	10.0%	9.0%	45	2.5%	2.5%
50	10.0	9.0	50	1.5	1.5
55	12.0	10.0	55	8.0	7.0
62	20.0	10.0	62	10.0	7.0
65	20.0	20.0	65	10.0	12.0
70	40.0	25.0	70	40.0	20.0
75	100.0	100.0	75	100.0	100.0

Spouses

100% of active members are assumed to be married with the male three years older than the female. No children’s benefits were valued.

Form of Payment

85% of participants eligible for early retirement are assumed to be paid through a joint and 2/3 survivor annuity. The remaining 15% of participants eligible for early retirement are assumed to elect a refund of contributions.

Future Expenses

None assumed.

Schedule C - Statement of Actuarial Methods and Assumptions (continued)

Valuation Method

The method used to determine Normal Cost and Accrued Actuarial Liability is the Entry Age Normal Cost Method. Under the Entry Age Normal Cost Method, an annual Normal Cost is determined for each covered active Member which is the contribution required to provide all the projected pension benefits assuming this contribution is payable over a period ending on the date of retirement (separation from active service) and expressed as a level percentage of compensation. The Actuarial Accrued Liability is determined as the excess of the total present value of all pension benefits over the total present value of future Normal Costs. The Unfunded Actuarial Accrued Liability as of the valuation date is determined as the excess of the Actuarial Accrued Liability over the Actuarial Value of Assets of the Plan. Effective with the September 1, 2019 roll-forward valuation, the Unfunded Actuarial Accrued Liability is amortized over closed 25-year periods (“layers”).

Actuarial Value of Assets

The actuarial value of assets is calculated based on the following formula:

$$MV - (8/10) \times G/(L)_1 - (6/10) \times G/(L)_2 - (4/10) \times G/(L)_3 - (2/10) \times G/(L)_4$$

where:

MV = the market value of assets as of the valuation date

$G/(L)_i$ = the asset gain or (loss) (i.e., actual return on assets less expected return on assets) for the i-th year preceding the valuation date.

Changes in methods and assumptions since the previous valuation

As shown above, assumptions were changed based on the experience study for the period September 1, 2014 through August 31, 2018. These changes increased the September 1, 2020 Actuarial Accrued Liability by approximately $20,000. The unfunded liability amortization method was changed to a 25-year layered approach effective with the September 1, 2019 roll-forward valuation.

Schedule D – ASOP 51 Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) requires certain disclosures of potential risks to the plan and provides useful information for intended users of actuarial reports that determine plan contributions or evaluate the adequacy of specified contribution levels to support benefit provisions.

Under ASOP 51, risk is defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience.

The more significant risk factors affecting the future funded status and contribution rates of the Plan are described below:

1. Investment Risk - The potential that future investment returns will be different than the current assumption of 7.25%. Plan costs are very sensitive to the market return. If market returns are lower than the assumed rate of return on assets, future costs will increase.

2. Contribution Risk - Under the El Paso City Municipal Code, the City contributes 14.05% of pay each year and active members contribute 8.95% of pay each year. The Actuarially Determined Contribution (ADC) for the plan year beginning September 1, 2020 is 11.52% of pay (excluding active member contributions). The ADC is currently less than the fixed City contribution rate of 14.05%. This should be monitored closely to ensure the contributions to the Plan do not fall below the ADC. If this were to happen, the liabilities of the Plan would grow faster than the assets, which would cause the unfunded liability and ADC to increase over time.

3. Longevity Risk - The potential that mortality rates of plan participants will be different than assumed. The mortality assumption includes an assumption for future mortality improvement. If participants live longer than the life expectancies predicted by the baseline mortality table and mortality improvement scale, benefits will be paid over a longer period of time than expected, which will lead to increases in liabilities and costs.

4. Other Demographic Risk - The potential that demographic experience patterns (especially retirement and turnover) will be different than assumed. If participants retire earlier than expected based on the retirement assumption, or lower turnover leads to more participants receiving benefits than expected, future liabilities and costs will increase.

5. Other Risks – Payroll does not grow as expected, thereby increasing future Actuarially Determined Contribution rates.

This information is provided to comply with ASOP 51 and furnish beneficial information on potential risks to the plan. **This list is not all-inclusive**; it is an attempt to identify the more significant risks and how those risks might affect the results shown in this report.

Note that ASOP 51 does not require the actuary to evaluate the ability or willingness of the plan sponsor to make contributions to the plan when due, or to assess the likelihood or consequences of potential future changes in law. In addition, this valuation report is not intended to provide investment advice or to provide guidance on the management or reduction of risk.

Historical Information

Monitoring certain information over time may help understand risks faced by the Plan. Historical information is included throughout this report. Some examples are:

- Historical Asset Rates of Return in Section 5 illustrates how the Plan's assets have performed over time.
- Funded Ratio History shown in Section 4 illustrates how the Plan's funded status (comparison of actuarial accrued liabilities to actuarial value of assets) has changed over time.
- Section 4 shows how the Actuarially Determined Contribution has changed over time.
- Schedule A shows how member census data has changed over time.

Schedule D – ASOP 51 Assessment of Risks (continued)

Plan Maturity Measures

There are certain measures that may aid in understanding the significant risks to the Plan.

Ratio of Cash Flow to Assets		FYE August 31, 2019	FYE August 31, 2020
1.	Retiree and Beneficiary Actuarial Accrued Liability	$ 598,442,205	$ 677,266,185
2.	Total Actuarial Accrued Liability	1,024,379,167	1,085,022,171
3.	Ratio, (1) ÷ (2)	58.4%	62.4%

A high percentage of liability concentrated on participants in pay status indicates a mature plan (often a ratio above 60% - 65%). An increasing percentage may indicate a need for a less risky asset allocation, which may lead to a lower long-term return on asset assumption and increased costs. Higher percentages may also indicate greater investment risk as benefit payments may be greater than contributions creating an increased reliance on investment returns. This ratio should be monitored each year in the future.

Ratio of Cash Flow to Assets		FYE August 31, 2019	FYE August 31, 2020
1.	Contributions	$ 42,171,245	$ 41,410,781
2.	Benefit Payments and Refunds	66,648,577	70,376,992
3.	Cash Flow, (1) - (2)	$ (24,477,332)	$ (28,966,211)
4.	Fair Value of Assets	$ 802,755,755	$ 877,989,396
5.	Ratio, (3) ÷ (4)	(3.0%)	(3.3%)

When this cash flow ratio is negative, more cash is being paid out than deposited in the trust. Negative cash flow indicates the trust needs to rely on investment returns to cover benefit payments and/or may need to invest in more liquid assets to cover the benefit payments. More liquid assets may not generate the same returns as less liquid assets, which can increase the investment risk. Currently, the low magnitude of the ratio implies there may already be enough liquid assets to cover the benefit payments, less investment return is needed to cover the shortfall, or only a small portion of assets will need to be converted to cash. Therefore, the investment risk is likely not amplified at this time. This maturity measure should be monitored in the future.

Contribution Volatility		FYE August 31, 2019	FYE August 31, 2020
1.	Fair Value of Assets	$ 802,755,755	$ 877,989,396
2.	Payroll	167,225,529	172,242,295
3.	Asset to Payroll Ratio, (1) ÷ (2)	480.0%	509.7%
4.	Accrued Liability	$1,024,379,167	$1,054,386,823
5.	Liability to Payroll Ratio, (4) ÷ (2)	612.6%	612.2%

Plans that have higher asset-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 10% may experience twice the contribution volatility due to investment return volatility than a plan with an asset-to-payroll ratio of 5%. Plans that have higher liability-to-payroll ratios experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, if an assumption change increases the liability of two plans by the same percent, the plan with a liability-to-payroll ratio of 10% may experience twice the contribution volatility than a plan with a liability-to-payroll ratio of 5%.

Schedule E – Glossary of Terms

Actuarial Accrued Liability

The portion, as determined by a particular cost method, of the total present value of benefits that is attributable to past service credit.

Actuarial Assumptions

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement rate or rates of investment income and salary increases. Actuarial assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Gain (Loss) or Liability/Asset Experience

A measure of the difference between actual and expected experience based upon a set of actuarial assumptions.

Actuarial Present Value of Future Benefits

Also referred to as the present value of benefits. It is the value, as of a specified date, of an amount payable in the future, where the amount has been adjusted to reflect both the time value of money and the probability that the payment is actually made.

Actuarial Present Value of Future Normal Costs

The value, as of a specified date, of future normal costs, equal to the employer normal cost rate times the actuarial present value of future pay.

Actuarial Present Value of Future Pay

The value, as of a specified date, of future pay where the amount has been adjusted to reflect both the future value of money and the probability that the payment is actually made.

Amortization Rate or UAAL Payment

That portion of the pension plan contribution which is designed to pay off (amortize) the unfunded actuarial accrued liability in a systematic fashion.

Cost-of-living adjustments

Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Covered Payroll

The rate of pay as of a specified date adjusted with a half-year salary increase based on the assumed salary increase assumptions.

Entry Age Actuarial Cost Method

This method assumes that the annual costs are the level premiums needed from entry age until retirement age to fund the ultimate retirement benefit. These premiums are expressed as a percentage of salary. The portion of this actuarial present value allocated to a valuation year is called the normal cost.

Schedule E – Glossary of Terms (continued)

Normal Cost

The ongoing annual cost allocated to the system by a particular actuarial cost method for providing benefits (future cost). Normal cost payments are made during the working lifetime of the member.

Unfunded Actuarial Accrued Liability

The excess of the actuarial accrued liability over the actuarial value of assets.

Vested Benefit

The benefit an employee is entitled to, based on vesting service, even if the employee separates from active service prior to normal retirement age.

Table 1 - The Number and Average Annual Wages of Active Members Distributed by Fifth Age and Service as of September 1, 2020

Attained Age	Years of Credited Service: Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	48 25,244	72 24,371	1 23,010	0 0	0 0	0 0	0 0	0 0	0 0	0 0	121
25 to 29	97 28,919	312 31,773	34 32,389	0 0	0 0	0 0	0 0	0 0	0 0	0 0	443
30 to 34	55 30,719	262 33,908	133 39,000	17 33,217	0 0	0 0	0 0	0 0	0 0	0 0	467
35 to 39	39 31,915	208 34,364	171 41,875	86 44,938	8 35,392	1 42,764	0 0	0 0	0 0	0 0	513
40 to 44	43 30,560	147 34,929	126 39,781	110 46,494	56 49,379	15 43,429	0 0	0 0	0 0	0 0	497
45 to 49	35 31,578	138 35,897	120 40,649	118 43,840	82 51,031	57 46,148	16 47,451	1 35,565	0 0	0 0	567
50 to 54	24 34,160	109 32,906	84 41,227	115 41,203	99 45,305	83 47,898	82 48,190	17 45,671	0 0	0 0	613
55 to 59	18 28,563	99 35,568	98 36,270	101 39,490	83 39,345	57 45,043	73 55,245	33 48,038	10 56,704	0 0	572
60 to 64	6 37,677	40 37,411	55 36,932	82 38,323	71 45,198	51 42,667	38 54,551	29 48,708	10 77,290	1 38,939	383
65 to 69	5 26,560	13 32,883	11 42,223	31 32,142	11 46,783	8 45,068	9 49,382	4 39,938	1 102,603	2 94,777	95
70 & up	0 0	4 36,807	4 41,788	10 55,581	6 40,167	2 34,094	2 34,184	2 36,854	0 0	3 38,321	33
Total	370	1,404	837	670	416	274	220	86	21	6	4,304

Table 2 - The Number and Annual Retirement Allowances of Retired Members, Disabled Members and Beneficiaries by Age as of July 1, 2020

Age	Number	Benefit	Average Benefit
Less than 20	1	$ 15,829	$ 15,829
31	1	2,476	2,476
34	1	16,842	16,842
35	1	24,161	24,161
39	1	7,999	7,999
43	1	5,497	5,497
44	1	5,803	5,803
46	1	9,713	9,713
47	4	53,122	13,281
48	3	45,760	15,253
49	5	42,558	8,512
50	11	216,628	19,693
51	9	160,638	17,849
52	8	134,517	16,815
53	14	159,468	11,391
54	19	370,763	19,514
55	23	296,223	12,879
56	48	975,995	20,333
57	69	1,604,088	23,248
58	90	1,958,931	21,766
59	84	2,048,415	24,386
60	84	1,995,995	23,762
61	107	2,181,531	20,388
62	119	3,026,520	25,433
63	121	2,667,560	22,046
64	138	2,837,697	20,563
65	149	3,447,581	23,138
66	134	2,776,139	20,717
67	177	3,678,637	20,783
68	156	3,699,676	23,716
69	147	3,094,085	21,048
70	131	2,514,647	19,196
71	128	2,234,624	17,458
72	134	2,860,888	21,350
73	124	2,736,806	22,071
74	159	3,387,397	21,304
75	101	1,872,265	18,537

Table 2 - The Number and Annual Retirement Allowances of Retired Members, Disabled Members and Beneficiaries by Age as of July 2020 (continued)

Age	Number	Benefit	Average Benefit
76	80	1,336,132	16,702
77	94	1,547,291	16,461
78	85	1,830,288	21,533
79	62	1,241,721	20,028
80	75	1,258,911	16,785
81	58	889,325	15,333
82	59	913,860	15,489
83	60	926,384	15,440
84	54	756,348	14,006
85	55	852,048	15,492
86	49	805,208	16,433
87	33	493,110	14,943
88	50	744,416	14,888
89	29	397,265	13,699
90	21	290,798	13,848
90 & over	108	1,336,132	16,702
TOTAL	3,476	$ 68,772,742	$ 19,785

Table 3 - The Number and Future Annual Allowances of Terminated Members, Entitled to a Future Benefit by Age as of July 1, 2020

Age	Number	Benefit	Average Benefit
Less than 27	1	$ 960	$ 960
30	1	960	960
32	1	17,880	17,880
34	2	5,832	2,916
35	1	525	525
36	1	2,188	2,188
37	3	24,960	8,320
38	1	5,660	5,660
40	3	68,520	22,840
41	4	45,600	11,400
42	5	109,284	21,857
43	4	39,016	9,754
44	5	29,858	5,972
45	6	108,473	18,079
46	7	124,926	17,847
47	5	78,402	15,680
48	6	66,075	11,013
49	11	254,128	23,103
50	11	187,821	17,075
51	12	182,113	15,176
52	9	137,360	15,262
53	13	207,244	15,942
54	10	148,360	14,836
55	10	81,990	8,199
56	3	22,714	7,571
57	3	16,560	5,520
58	5	105,323	21,065
59	4	46,339	11,585
60	5	46,275	9,255
61	2	19,080	9,540
63	2	13,440	6,720
64	1	1,200	1,200
65	2	21,720	10,860
66	1	3,120	3,120
72	1	10,013	10,013
73	1	4,798	4,798
TOTAL	162	$ 2,238,717	$ 13,819